# Logistics Management Information System

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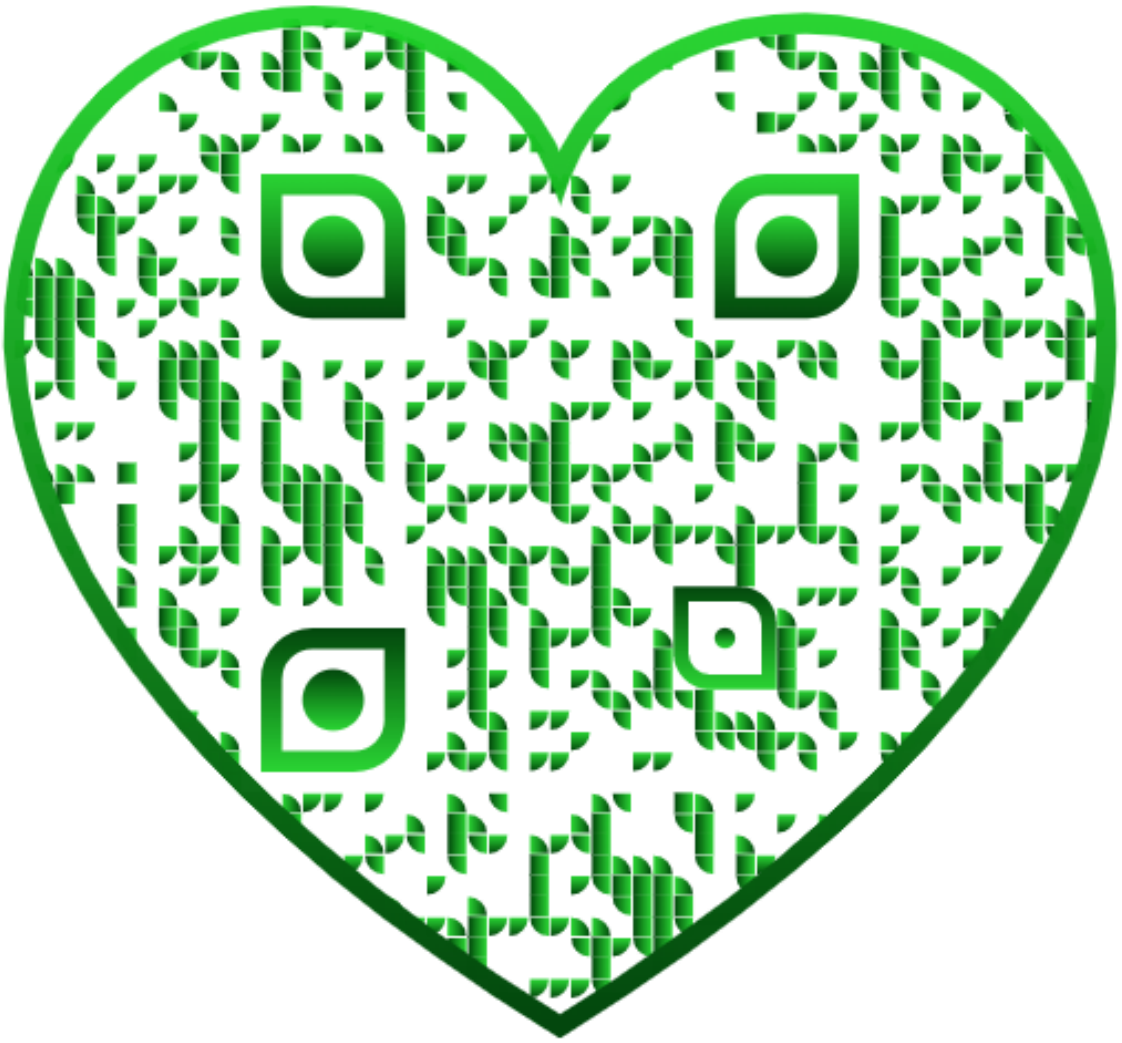

# Chapter Objectives

- By the end of this chapter students will be able to:
  - Define logistics management information system (LMIS)
  - Explain the importance of LMIS
  - Describe essential data needed for decision making
  - Discuss types of logistics records
  - Explain the reporting systems, summary reports, and feedback reports

# Logistics Management Information Systems (LMIS)

- **LMIS:**
  - It is the system of records and reports that one uses to collect, organize, and present logistics data gathered across all levels of the system.
  - An effective LMIS enables people involved in health product management to make informed decisions that will ultimately improve medicines availability to patients.

## Logistics Management Information Systems…

- LMIS can be used to make decisions in the areas like;
  - Quantification, procurement,
  - Calculating maximum stock level and reporting,
  - Inventory management and control at the health facility level,
  - Monitoring program performance, national pipeline monitoring, redistribution of health commodities when necessary, and
  - Capturing information on where consumption is highest or lowest, which helps determine whether more resources are required.

## Logistics Management Information Systems…

- An effective LMIS for medicines will thus contribute to preventing stock outs and stock imbalances of medicines at health facilities.
- It ***heavily relies on good record- keeping practices*** of the staff responsible for medicines management at health facilities.

# Logistics Management Information Systems…

- For an effective LMIS, the following six key elements (also known as the logistics six rights) are needed.
  - Right data (essential data items)
  - At the right time (in time to act)
  - At the right place (place where decisions are made)
  - In the right quantity (having all essential data from all facilities)
  - Right quality (data are complete and accurate)
  - At the right cost (not spend more to collect information than spend on supplies).

# Purpose of LMIS

- LMIS is an integrated effort to;
  - Collect
  - Organize
  - Process
- Report and use health/drug information and knowledge for;
  - Influencing
  - Policy-making
  - Program action and
  - Research

# Essential Data for Decision Making

- **Data:**
  - Raw facts that are collected and form the basis for what we know
  - "Message not evaluated for their worth in specific situations"
  - It can be Primary and secondary data
  - **Information:**
    - It is the product of transforming the **data** by adding order, context, and purpose
      - Evaluated data
      - it sis an essential input for decision making

## Essential Data for Decision Making…

- Four basic factors that determine the **value of information** include :
  - Appropriateness
  - Quality
  - Timeliness
  - Quantity

# Essential Data for Decision Making…

- If data are to be collected for decision making, you need to know what data to collect and how frequently to collect it.
- To decide what data to collect, look at the decisions you will need to make
- Think about the questions logistics managers might ask:
  - What information would they need to answer those questions and make informed decisions?

# Essential Data for Decision Making…

- The questions that logistic manager ask may include the following:
  - How long will current supplies last?
  - When do we need to order more supplies?
  - Where are our supplies in the pipeline?
  - Do we need to move supplies from higher to lower levels?
  - Where is consumption the highest? Do those facilities need more resources?

# Essential Data for Decision Making…

- Are we losing products from the system that require us to take action?
- Are supplies flowing smoothly through the pipeline?
  - Do we need to adjust our pipeline to account for bottlenecks in the distribution system?
- Are any products about to expire?
  - Should we take them out of the pipeline?
  - Can we redistribute them; can they be used before they expire?

# Essential Data for Decision Making…

- To manage a logistics system and make supply decisions, three minimal and essential pieces of LMIS information must be recorded and reported

- **1. Stock on hand**
  - Quantities of usable stock available at any level or at all levels of the system at a point in time.
  - **Examples;**
    - HC has 300 bottles of paracetamol in the store on the last day of the month.
    - At a national level, 780,000 bottles of paracetamol are on hand, based on stock on-hand data from the health centers, districts, and national warehouse.

# Essential Data for Decision Making…

- **2. Rate of use (Consumption):**
  - Average quantity of commodities dispensed to users in a given time
  - **Examples:**
    - In the last month, the health center used 120 HIV tests.
    - In the last month, the health center dispensed 1,045 condoms to clients.

# Essential Data for Decision Making…

- **3. Losses and adjustments:**
  - **Losses:** Quantity of health commodities removed from the distribution system for any reason other than consumption by clients
    - E.g., losses, expiry, and damage).
  - **Adjustments**: include receipt or issue of supplies to/from one facility to another at the same level
    - e.g., a transfer or a correction for an error in counting.
  - Losses/adjustments may be a negative or positive number

# Essential Data for Decision Making…

- **Examples: Loss/adjustment**
  - 30 male condoms expire (loss)
  - 4 IUDs stolen (loss)
  - Loaned another health facility 12 packages of oral rehydration salts (negative adjustment).
  - Received 20 treated malaria nets from another health facility (positive adjustment).

# Logistics Records

- In the supply pipeline, supplies are stored, moved (in transit), or consumed (used).
- In order to monitor and track supplies in the pipeline, **three types of records** are needed.
  - **1. Stock keeping records**
  - **2. Transaction records**
  - **3. Consumption records**

# 1. Stock keeping records

- Types of stock keeping records include :
  - Stock cards
  - Inventory control cards, and
  - Bin cards

# Stock keeping records…

- **Bin card:**
  - An individual stock keeping record that holds information about a single product by lot number or batch number
  - The card should note stock on hand, losses and adjustment of a product for that batch number only.
    - For example, one bin card would hold information about a single lot of paracetamol at a storage facility.
      - The card should note the stock on hand of paracetamol for that lot only, as well as any losses and adjustments for that lot.
  - Usually displayed at the bins (or shelf or pallet position) where the lot is found

# Stock keeping records….

- **Stock card:**
  - Document that records the inflow and outflow of goods in a business
  - It works best with the FIFO method and can track purchases, sales, and returns.
  - It also track the value of the inventory on hand
  - A it is a way to account for inventory in a location based on purchases, sales, and returns

# Stock keeping records….

- **Inventory control card:**
  - It is an individual stock keeping record that holds information about all the lots of a single product
  - It can also be known as a summary of many bin cards for a product
  - To ensure each lot is managed correctly in large warehouse, it usually advised to maintain both inventory control cards and bin cards.
  - In small storerooms, stock keeping record or stock card or inventory control cards can be used.

# Stock keeping records….

- **Stores ledger:**
  - It is a stock keeping record that contains the same information as the stoke cards described above.
  - Unlike stoke cards, a stores ledger is bound like a book; it is used instead of the individual card format.
  - Government policy in some countries requires the use of stores ledgers

# Figure: Bin card

| BIN CARD | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Commodity Lot/ Batch No.: | | | | Proct Name & Description: | | | | |
| Unit: | | | | Expiry Date : | | | | |
| Date | Transaction Reference | Received from/Issued to | Quantity Received | Quantity Issued | Losses | Adjustments | Quantity on Hand | Initials |
| | | | | | | | | |
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# Figure: Stock card

Name of Health Facility: _____

Product Name, Strength and Dosage Form _____

Unit of Issue: _____ Location: _____

Maximum Stock Level: _____ Emergency Order Point: _____

Average Monthly Consumption (AMC): _____

| Date | Doc. No. (Receiving or Issuing | Received from or Issued to | Quantity Unit Price | | | | Price | | Expiry Date | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Received | Issued | Loss/Adj | Balance | Birr | Cent | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | |

# 2. Transaction records

- **Transaction records:**
  - Used to record information about the movement of stock from one storage facility to another
  - They are proof of requisition, issue, and/or delivery
  - Sometimes, a transaction record will be combined with a type of report and will include data like current stock on hand and, depending on the system design, losses and consumption data.
  - They are completed by warehouse personnel at both issuing and receiving facilities

# 2. Transaction records…

- In pharmacies, storekeepers, pharmacy personnel, or nurses may complete the transaction records.
- These transaction records are started any time a facility requests or issues supplies
- They are filled in at any point in the order, issue, and receipt process when custody of the product being moved changes
- They are completed when the receiving facility confirms receipt of the items shipped
- The data on a transaction record are usually organized by date and transaction number, which helps to identify the transaction.

# 2. Transaction records…

- Ideally, transaction records should include a reference number that identifies each transaction.
- Data on the transaction record are organized by the product requested or issued.
- One transaction record is usually used to request or issue any number of products.
- On paper transaction records, the product names may be pre-printed or written by hand.

# 2. Transaction records…

- Most common formats for transaction records
  - Bills of lading;
  - Receiving records;
  - Issue vouchers and receipt vouchers
  - Combined requisition, issue, and receipt vouchers

# 2. Transaction records…

- **Issue and receipt voucher (IRV)**
  - Lists the items and quantity issued to a facility.
  - It also includes a separate column for the quantities received in case any items are lots or damaged in route.
  - Used in a push system;
    - The issuing facility determines the quantity to be sent and issues the supplies to the receiving facility.
  - Should be completed in triplicate (three copies)

# Figure: Issue and Receipt Voucher

**ISSUE AND RECEIPT VOUCHER**

Issue Voucher No.: _____

Date: _____ Ship to: _____

_____

_____

| | ARTICLE | Quantity | | REMARKS |
|---|---|---|---|---|
| | | Issued | Received | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |

Approved by: _____ Date: _____

Shipped by: _____ Date: _____

Received by: _____ Date: _____

# 2. Transaction records…

- **Requisition, issue and receipt voucher (RIRV)**
  - It is similar to an IRV, except that the RIRV is used only in a pull system (if it is completed by facility staff)
  - RIRV lists the items and quantities requested by a facility.
  - It also includes a column for the quantity actually issued.
    - Important in situations when it is impossible to supply the full amount requested
  - Like an IRV, the RIRV includes a column for the quantity received, which helps to account for any losses or damage in route.
  - Between two levels, RIRVs should be completed in quadruplicate for requisition (pull) systems.

# Figure: Requisition, Issue, and Receipt Voucher

**REQUISITION, ISSUE, AND RECEIPT VOUCHER**

Issue Voucher No.: _____

Date: _____ Ship to: _____

_____

_____

| | ARTICLE | Quantity | | | REMARKS |
|---|---|---|---|---|---|
| | | Requested | Issued | Received | |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
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| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |

Approved by: _____ Date: _____

Shipped by: _____ Date: _____

Received by: _____ Date: _____

# 3. Consumption records

- They are used to record the quantity of each product used by or dispensed to end users, or used at an Service Delivery Pont (SDP) when services are provided.
- Contain consumption data; more specifically, the quantity of any **specific product consumed in a specific period of time** and service providers who dispense products to clients or use products at SDPs are the one who should complete the records.
- They do not usually record stock on hand, or losses and adjustments.

# Consumption records…

- Consumption records filled out whenever supplies are dispensed to clients or used by service providers during service provision.
- The total quantity of each product used or dispensed is totaled at the end of the reporting period.
- The data on a consumption record is organized usually by the date of the visit, or date of dispensing or usage.
- They record the quantity of a specific product either dispensed to users or used by the end user.

# Consumption records…

- The consumption records are usually bound in a book or are printed on over sized paper.
  - One record (perhaps consisting of several pages) is usually used per month; however, in a bound book, a new page is started each month.
  - Common formats include;
    - Daily activity registers (DARs),
    - Pharmacy dispensing registers,
    - Daily usage registers or logs, and tick sheets.

# Consumption records…

- **A daily activity register (DAR)**:
  - Rerecords the quantity of each product received by a customer (by name or client number) and by date.
  - They work best when the brands (for family planning programs) or the names/strength/ formulation of each product (for medicines) are pre-printed on the form.
  - At the bottom of the DAR, the total quantity dispensed or used is calculated for each product and then used for reporting purposes.
  - Another name or example of a DAR is a Daily Dispensing Register

# Consumption records…

- **A daily usage log or register:**
  - Used to record the quantities of a product, usually related to the laboratory, that facility personnel use on a particular date;
    - For example, the number of HIV tests used in the HIV counseling and testing department on a particular day, or the number of vacutainers used in the lab on particular day.
  - These usage logs also work best when the products are pre-printed, by brand, on the form.

# Consumption records…

- **A tick sheet:**
  - It is used to record the quantity of each product dispensed to users.
  - A tick or mark (often an X) indicates one unit dispensed
  - In some cases, each box represents a client, and the number of each item dispensed is written in the box.
    - A tick sheet does not record this information by day or by client.

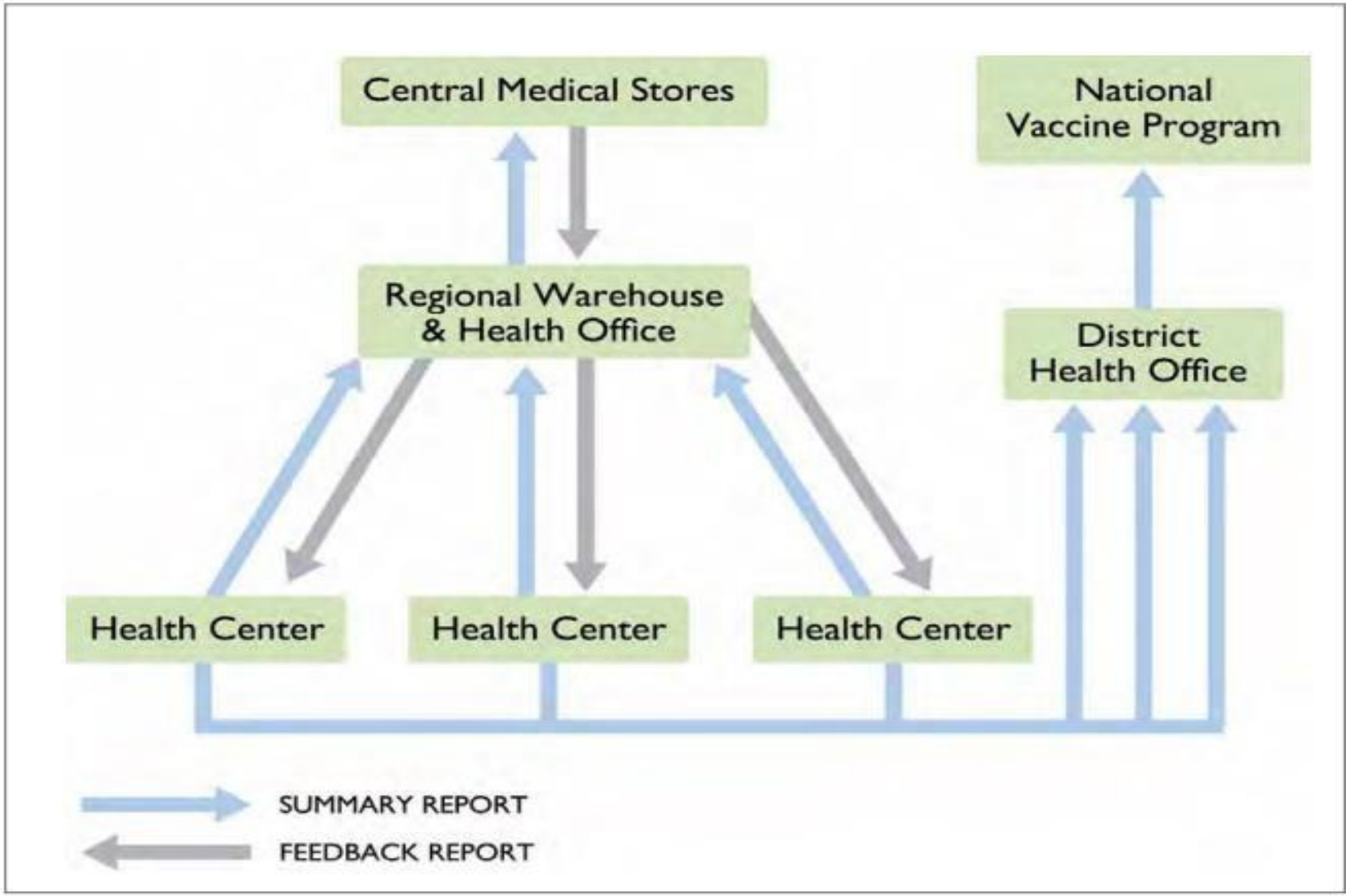
# Reporting Systems and Summary Reports

- Data recorded on stock keeping, transaction, and consumption records should be available to managers in a form useful for decision making.
- To make a good decision it is reasonable for logistics managers to get
  - The right data, at the right time at the right place , and in the right quantity and quality (data are complete and accurate) and at the right cost (should not spend more to collect information than we spend on supplies).
    - Therefore, reports are used to move the essential data to decision makers.

# Reporting Systems…

- **Reporting systems**
  - Reports move information up and down through a logistics system and provide decision makers at various levels
  - A reporting system must be in place to ensure that this information flows correctly and consistently.
  - A reporting system in a supply chain may include levels outside storage and distribution points
  - For example:
    - A District Health Office might not hold stock or be involved in the distribution of products, but this office still needs to receive LMIS reports to ensure that facilities are stocked appropriately to determine if the District Health Office needs to invest additional funding and/ or resources into training, staffing, commodity quantities, etc

# Figure: Sample Logistics Reporting System: National Vaccine



# Reporting Systems…

- **Program Summary reports**
  - Used to move all essential logistics data items for products, for a specific facility, and for a specific time period to the decision makers.
  - They must contain all three essential logistics data items;
    - ***Stock on hand, consumption, and losses.***
  - Adjustments may also be reported if useful for decision making, but reported separately from losses.
  - Usually completed at the end of the reporting period
    - Usually monthly, bimonthly, or quarterly by the manager responsible for collecting the three essential logistics data items

# Reporting Systems…

- One summary report is usually prepared and submitted for or by each facility required to report for a specific period.
- Lower-level facilities are usually given a reporting deadline, and each successive level is given another deadline for reporting to the next level.
  - **For example:** Health facilities may be given until the 10th day of the following month to report to districts, districts may have until the 20th day to report to the region, and the region may have until the last day of the month to report to the central level

# Reporting Systems…

- **Aggregate summary report**
  - One of the most important decisions logistics managers face in collecting data on summary reports is determining when and at what level data can be aggregated.
  - What data should be aggregated, and at what level, depend on many factors.
    - How visible does the facility-level data need to be higher up in the system (i.e., does the central level need to know exactly what each health facility distributed and has on hand?)
    - What decisions need to be made at what levels (budgetary, supervision, stock distribution, etc.) and what detail of data is needed?
    - What are the current tasks and work responsibilities of staff that will be required to compile the aggregated data?
      - Will aggregating data be too much of a burden? Which levels have tools (computers) and staff that can more easily aggregate data?

# Reporting Systems…

- **A combined report and request form:**
  - It is summary report that presents the data to the next higher level and requests new supplies
  - Advantage of this report ;
    - Higher level can verify the need, and
    - Lower level sends up only one form that includes both its reporting data and its order
    - Reporting rates often improve, because when a report is tied to an order, it usually encourages timely submission of reports

# Reporting Systems…

- **How summary reports move?**
  - They move up the pipeline from the SDPs to the central level
  - Depending on where reports are aggregated, reports from SDPs may move all the way to the central level or may be kept at the level at which they were aggregated.
  - Reports that are also tied to requisitions (order) may bypass reporting to intermediate levels and report directly to higher levels, usually from where supplies are issued like a district store or central warehouse.
    - This has the effect of shortening the lead time for reporting

# Reporting Systems…

- However, other levels may still need to see the summary report for supervision, pipeline monitoring, and budgeting purposes.
- In addition, reporting lead time can be shortened significantly if reports are transmitted electronically either through email, mobile phone, or a website/LMIS database
  - Electronic reporting also decreases the possibility of a report being lost during transit

# Feedback Reports

- When program and logistics managers know the data they received are incorrect, they need to communicate with the facility that sent the data.
- Managers can also use data they receive to congratulate facilities for moving toward program goals
  - To do this, managers can use feedback reports
    - These reports are important for facilities and managers, and stakeholders at other levels of the supply chain, especially the central level.

# Feedback Reports…

- Feedback reports aggregate and analyze the data contained on the routine LMIS reports submitted by facilities.
    - Central-level reports often contain information on:
        - Trends in consumption,
        - National stock status,
        - Percentage of facilities reporting, and
        - Percentage of facilities experiencing a stock out

# Feedback Reports…

- Use feedback reports to identify overall logistics system weaknesses or issues to inform overall program planning and management, and areas for logistics system improvement.
- Preparing feedback reports is easiest when the LMIS is automated
  - Computers quickly identify mathematical errors and highlight missed deadlines
- Feedback reports are essential for manual systems too
  - But processing and preparing reports by hand may require a great deal of time and effort.

# Feedback Reports…

- **Feedback for health facilities:**
  - Feedback reports inform lower levels about their performance; improve capacity;
    - Give recognition; and,
    - In some cases, provide information about reporting from other facilities.
  - Feedback reports also inform managers at higher levels about how the system is functioning.

# Feedback Reports…

- Feedback reports may help solve many problems
  - To pinpoint errors in the individual reports.
    - Include information about these errors and how to correct them.
  - In addition, feedback reports let the person sending the report know their work has been received (and when it was received)
  - Also, feedback reports can be used to motivate lower levels to turn in complete, error-free reports, on time, by reporting which sites are producing quality reports and which are not

# Feedback Reports..

- **Feedback for decision makers throughout the supply chain**
  - Managers can use feedback reports to gauge how well the system is functioning.
    - For example, a feedback report might list facilities that are stocked out or overstocked; percentages of those facilities reporting at each level; or quantities of losses and adjustments, by level.
  - Feedback reports can also address a single facility or product.
  - In addition to providing feedback to facilities, the feedback reports are used to present data for decision making throughout the supply chain

# Feedback Reports…

- The decision makers might be divisions within the public sector, such as;
  - Ministry of Health
  - Government procurement units,
  - Warehouses (such as the Central Medical Stores [CMS], or distributors
- Other donors, funding agents, implementing partners, and NGOs can also be decision makers within a system and can benefit from using feedback reports.
- A key element of feedback reports, whether they are sent to a facility or the CMS
  - Increase visibility of information by communicating logistics data to all levels of the system

# Feedback Reports…

- **Using an LMIS for Decision making**
  - At the most fundamental level, the decision making process can be viewed as a black box into which information flows and out of which decisions emerge
- If you are interested in decisions of any type, you must understand the decision making process.
- To improve decisions, you could;
  - Improve the information flowing into the box, or
  - Improve the process within the box.
    - These are two different types of activities; in most cases, to have any effect on decisions, the two must be done simultaneously.

# Feedback Reports…

- It is not possible to define better information without understanding both the decisions being made and the decision making process.
  - Important principle of LMIS development:
    - To design a relevant, useful system, you must first consider what decisions are being made and, second, how they are being made
      - Only with this understanding can you say what information is needed and how to collect it.
  - Information systems fail most frequently because the information they collect is not useful in decision making.

# Quality monitoring of the logistics management information system

- Quality monitoring is necessary because the essential data needed for logistics management are used to make informed decisions that will improve customer service, quality is critical
- Data quality is often a challenge, there are specific steps that can be taken to improve the quality of LMIS data:
  - ✓ Data collection
  - ✓ Data reporting
  - ✓ Data monitoring, aggregation, and analysis
  - ✓ Automated LMIS

# Quality monitoring of the logistics…

- **Data collection**:
  - All staff responsible for maintaining logistics records: whether stock keeping, transaction or consumption should be appropriately trained and have adequate time to carry out this responsibility.
  - The forms should be clear and simple, with sufficient writing space.
  - On-the-job training (OJT) and supportive supervision should be undertaken to ensure the forms are being completed correctly.

# Quality monitoring of the logistics…

- **Data reporting:**
  - Data should be reported regularly and logistics managers should review the reports to verify the quality of the data
  - Feedback reports and incentives can be used to motivate lower levels to turn in complete, error-free reports
  - Linking reporting with ordering also encourages timely reporting

## Quality monitoring of the logistics…

- **Data monitoring, aggregation, and analysis:**
  - The data should be validated by comparing different reports to ensure that data are accurately and consistently entered, aggregated, and reported.
  - It is important to ensure optimal quality of the raw data that is subsequently analyzed, so that reports are reliable for decision making.

# Quality monitoring of the logistics…

- **Automated LMIS:**
  - Using computers, handheld devices, mobile phones, or internet can help improve data quality
  - It can help reduce mathematical errors; highlight missing information; and facilitate data capture, analysis, reporting, and feedback.
  - However, computerized LMISs are expensive and require significant inputs (i.e., hardware, programming, electricity, training etc.);
    - Therefore, the quality improvement benefits must be weighed carefully against the costs.

**Ethiopian Logistics Management Information System:**

***'Integrated Pharmaceutical Logistics System (IPLS)' and***

***Auditable Pharmaceutical Transaction System (APTS)***

# Introduction

- Ethiopian Pharmaceuticals Fund and Supply Agency (EPFSA) was established based on the *Pharmaceuticals Logistics Master Plan (PLMP)*
- The Agency was mandated to avail affordable and quality pharmaceuticals sustainably to all public health facilities and ensure their rational use.
- To execute its mandate in the area of pharmaceuticals supply in an efficient and effective manner,
  - *Integrated pharmaceuticals logistics system (IPLS)* has been developed and implemented since 2010.

# Introduction…

- **Integrated Pharmaceuticals Logistics system (IPLS):**
  - Aims to ensure that patients always get pharmaceuticals they need
  - To be successful, the system must fulfill the six rights of supply chain management by ensuring
    - ✓ The right products
    - ✓ In the right quantity
    - ✓ At the right quality
    - ✓ At the right place and time and
    - ✓ For the right cost.

# Overview of Pharmaceuticals and Information flow in IPLS

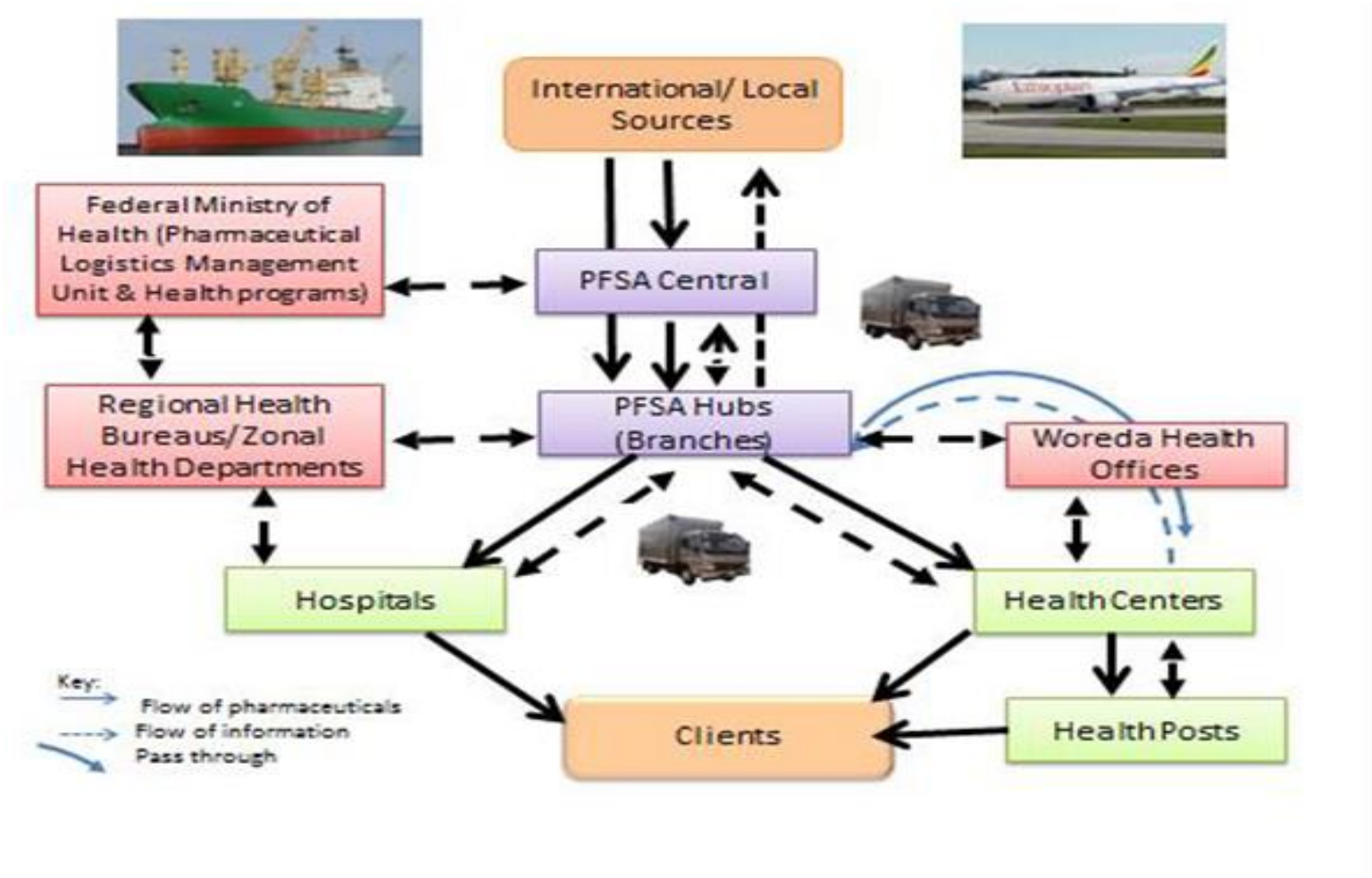



Figure: Flow of program pharmaceuticals and information in the IPLS

# Overview of Pharmaceuticals and Information..

- Logistics information is collected and reported monthly by health posts and every other month by health centres and hospitals on LMIS forms.
- For direct delivery facilities:
  - A combined report and requisition form is completed by health centres and hospitals and sent to EPSA Hubs for requisition processing;
  - The health centre order includes the pharmaceuticals requirements of the health posts.
- For non-direct delivery facilities;
  - A combined report and requisition form is completed by health centres and sent to EPSA branches through WoHOs.

# Auditable Pharmaceutical Transaction (APTS)

- **APTS:**
  - Data driven package of interventions designed to establish accountable, transparent and responsible pharmacy practice.
  - It enables health facilities to:
    - Optimize utilization of medicines budget
    - Improve access to medicines, and
    - Decrease wastages
    - Continuously monitors the number, mix & performance of pharmacy workforce
    - Improves pharmacy premise design and workflow

# APTS…

- Through improving recording and documentation, APTIS generates reliable and consistent information for decision making.
  - Improves overall quality of pharmacy services thereby increasing patient knowledge and satisfaction.
    - Ultimately contributes to better health outcomes
  - Accountable, transparent and responsible pharmacy practice
  - Enables health facilities to optimize utilization of medicines budget, improve access to medicines, and decrease wastages

# Key components of APTS…

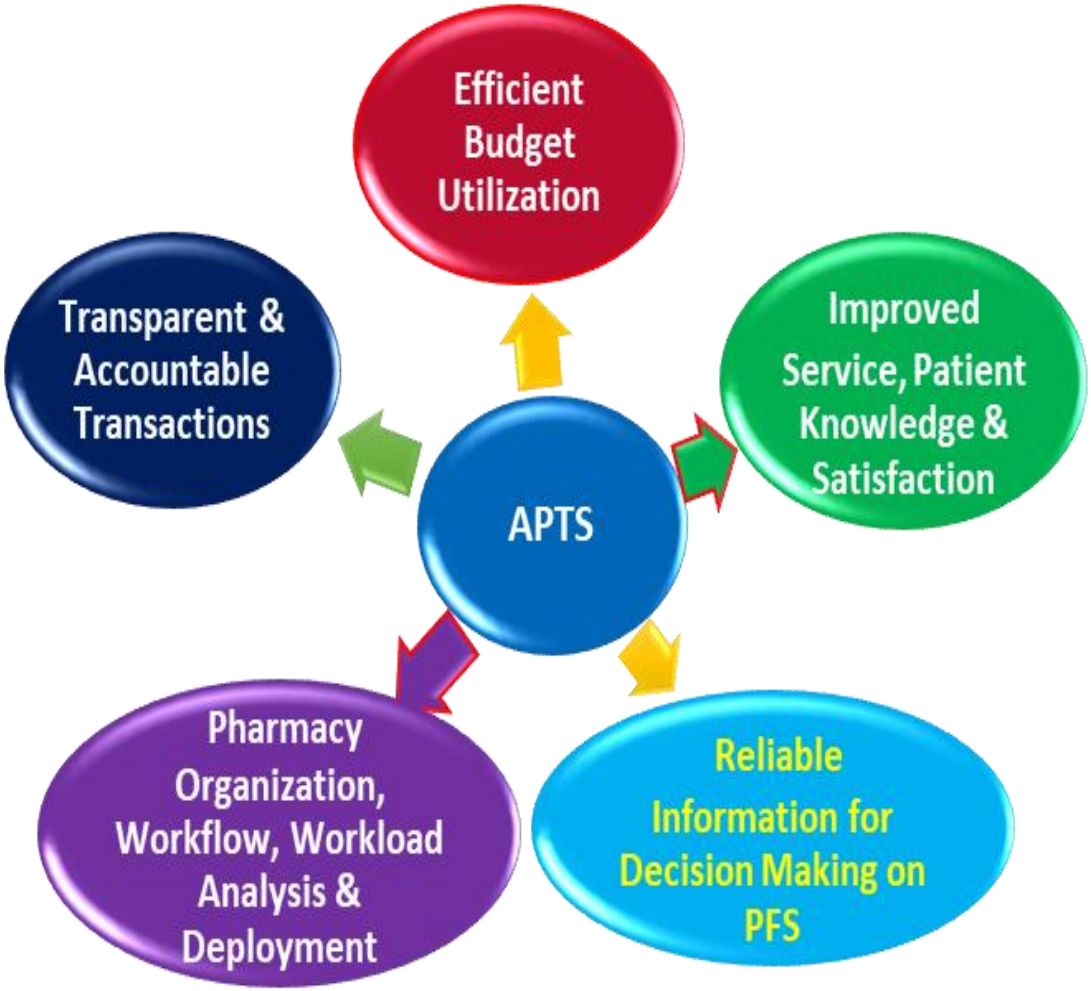

Efficient Budget Utilization
Transparent & Accountable Transactions
Improved Service, Patient Knowledge & Satisfaction
APTS
Pharmacy Organization, Workflow, Workload Analysis & Deployment
Reliable Information for Decision Making on PFS

**Figure: Essential elements APTS (PFS ➔product, finance and service)**

# 1. Efficient Budget Utilization

- Activities to achieve this key result area of APTS:
  - Identify top disease of the catchment area and select product
  - Use updated facility specific medicine list reconciled by ABC-VEN
  - Regularly do stock status & consumption to stock analysis
  - Resource sharing and stock transfer
  - Establish effective mechanisms to manage sales of medicines
  - Finally, to reduce wastage rate and to improve availability

## 2. Transparent & Accountable Transactions

- Activities to achieve this key result area of APTS:
  - Establishing a legal framework (APTS Regulations ➔directives ➔guidelines):
    - APTS is enacted by regulation, directive and guideline in all regional states of Ethiopia
    - In addition, it is one of the priority agenda of the MOH and RHBS
    - Use standard financial vouchers
      - Model 19/22/health, sales tickets; Price control sheet developed by Bin owners and Model 20/Health (IFRR)
    - Record all pharmaceutical transactions
    - Record full description of pharmaceuticals

## 2. Transparent & Accountable Transactions…

- Daily reconcile cost of medication sold
- Establish individual accountability by implementing bin management at all dispensing units
- Apply collective responsibility to ensure participatory effort in managing medicines and transactions
- Conduct regular audit and stop stealing specially some dangerous medicines like **antimalaria**
- Implementation of unique identifiers (coding) for all medicines, supplies and reagents using the coded master list of Ethiopia

## 3. Effective work force development and deployment

- Activities to achieve this key result area of APTS:
  - Total number of patients served per month should be calculated and fulfilling workforce needs based on the workload analysis.
  - Provide all relevant in-service trainings including APTS for pharmacy and finance professionals
  - Integrate APTS principles in pre-service education
  - Providing one stop shopping service (by entrance & exit doors)

## 4. Reliable information for decision making

- Activities to achieve this key result area of APTS:
  - Generate monthly financial reports in cash, credit and for free
  - Generate service report which indicates number of patients served per health facility & dispenser, per month, segregated by service type and unit
  - Generate information on stock and consumption analyses, availability, and affordability of medicines
  - Use reliable information (referring serial number of receiving, issuing and dispensing tools) for service and financial reports so that it can be used for decision-making
  - Monitoring and evaluation results

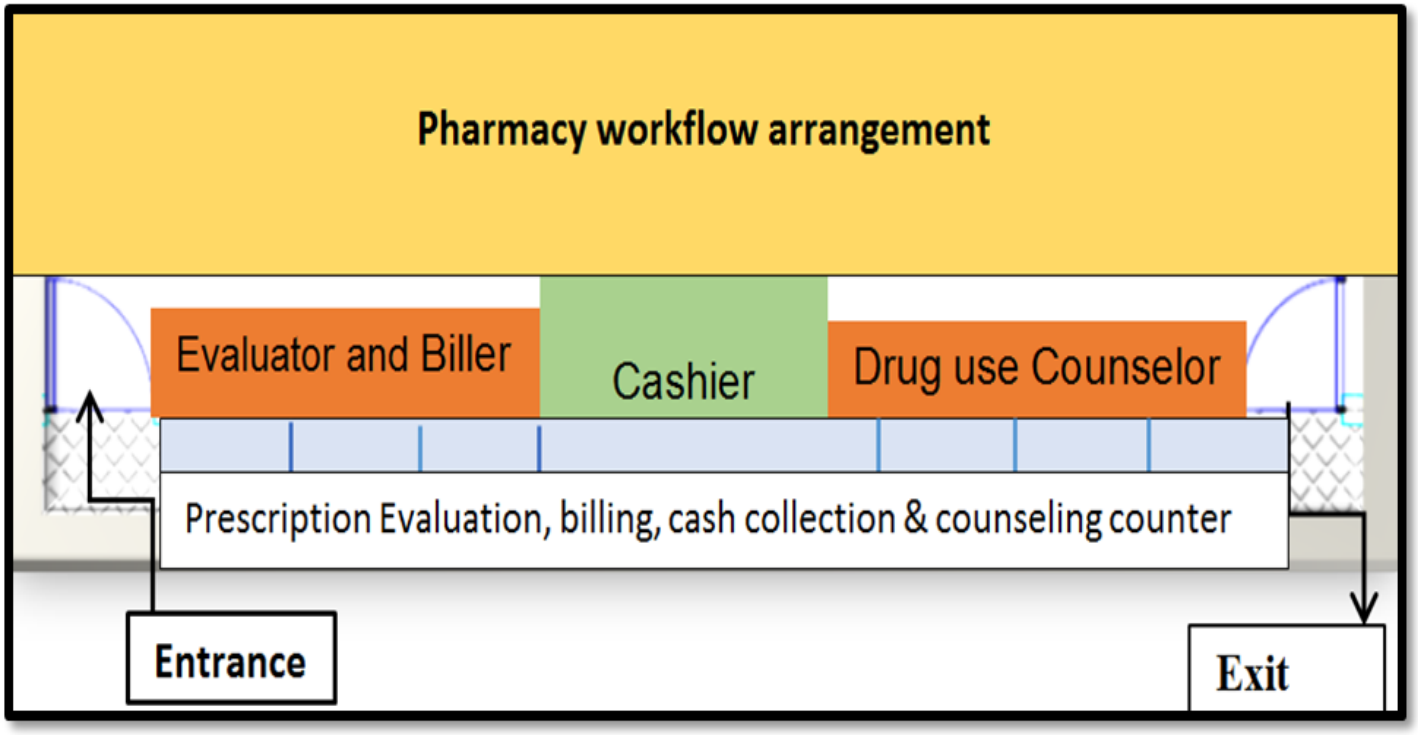
## 5. Improved customer satisfaction

- Activities to achieve this key result area of APTS:
  - Developing dispensary that is suitable for all types of patients like HIV/chronic patients that serve them separately (in counter where other person cannot not listen their counseling)
  - Patient knowledge on correct dosage (Dose, frequency, duration, rout of administration)
  - Improving availability of medicines
  - Improving dispensing environment by using anthropometry and ergonomics principles to make it suitable
  - Redesign the dispensing workflow:
    - **Entrance door, dispensing process, Rx evaluator➔ Cashier➔ Counselor) and exit door**

## Improved customer satisfaction…

- The counseling counters should be separated for each customer, since their counseling should never be heard by others for customers like HIV patients
- According to majority of Ethiopians height, the best counter height for patient is 1.10m and for professional to give service being seated is 75cm.
- To make the counter suitable for mothers carrying children
- Providing quality pharmaceutical services
- Improve professionals' and patients' satisfaction

# Pharmacy Service Organization




**Patient Flow arrangement in APTS implementing health facilities**